

What is claimed is:

1. A method for inhibiting proliferation of cancer cells comprising

5 (a) administering to the cells a first agent comprising a synthetic, modified oligonucleotide complementary to, and capable of down-regulating the expression of, nucleic acid encoding protein kinase A subunit RI α , the modified oligonucleotide having from about 15 to about 30 nucleotides and being a hybrid, inverted hybrid, or inverted chimeric oligonucleotide,

10 the hybrid oligonucleotide comprising a region of at least two deoxyribonucleotides, flanked by 3' and 5' flanking ribonucleotide regions each having at least four ribonucleotides,

15 the inverted hybrid oligonucleotide comprising a region of at least four ribonucleotides flanked by 3' and 5' flanking deoxyribonucleotide regions of at least two deoxyribonucleotides,

20 and the inverted chimeric oligonucleotide comprising an oligonucleotide nonionic region of at least four nucleotides flanked by two oligonucleotide phosphorothioate regions; and

25 (b) administering to the cells a second agent comprising an antibody that binds to epidermal growth factor receptor (EGFR) or a cytotoxic agent selected from the group consisting of taxanes, platinum-derived agents, and

30 topoisomeraseII-selective drugs;

wherein the administering steps may be performed simultaneously or sequentially in any order.

2. The method of claim 1, wherein the oligonucleotide is a hybrid oligonucleotide.

5 3. The method of claim 1, wherein the oligonucleotide has a nucleotide sequence consisting essentially of the nucleotide sequence set forth in SEQ ID NO:4.

10 4. The method of claim 1, wherein the second agent is an antibody that binds to EGFR.

5. The method of claim 4, wherein the antibody is a monoclonal antibody.

15 6. The method of claim 5, wherein the antibody is C225.

20 7. The method of claim 1, wherein the second agent is a taxane.

8. The method of claim 7, wherein the taxane is selected from the group consisting of paclitaxel and docetaxel.

25 9. The method of claim 1, wherein the second agent is administered prior to administration of the first agent.

30 10. The method of claim 1, wherein the cancer cells are human cancer cells.

11. The method of claim 10, wherein the human cancer cells are selected from the group

consisting of breast cancer cells, colon cancer cells, and ovarian cancer cells.

5 12. A pharmaceutical composition comprising

10 (a) a first agent comprising a synthetic, modified oligonucleotide complementary to, and capable of down-regulating the expression of, nucleic acid encoding protein kinase A subunit RI α , the modified oligonucleotide having from about 15 to about 30 nucleotides and being a hybrid, inverted hybrid, or inverted chimeric oligonucleotide,

15 the hybrid oligonucleotide comprising a region of at least two deoxyribonucleotides, flanked by 3' and 5' flanking ribonucleotide regions each having at least four ribonucleotides,

20 the inverted hybrid oligonucleotide comprising a region of at least four ribonucleotides flanked by 3' and 5' flanking deoxyribonucleotide regions of at least two deoxyribonucleotides,

25 and the inverted chimeric oligonucleotide comprising an oligonucleotide nonionic region of at least four nucleotides flanked by two oligonucleotide phosphorothioate regions; and

30 (b) a second agent comprising an antibody that binds to epidermal growth factor receptor (EGFR) or a cytotoxic agent selected from the group consisting of taxanes, platinum-derived agents, and topoisomeraseII-selective drugs.

13. The method of claim 12, wherein the oligonucleotide is a hybrid oligonucleotide.

14. The method of claim 12, wherein the oligonucleotide has a nucleotide sequence consisting essentially of the nucleotide sequence set forth in SEQ ID NO:4.

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15. The method of claim 12, wherein the second agent is an antibody that binds to EGFR.

10 16. The method of claim 15, wherein the antibody is a monoclonal antibody.

17. The method of claim 12, wherein the antibody is C225.

15 18. The method of claim 12, wherein the second agent is a taxane.

20 19. The method of claim 18, wherein the taxane is selected from the group consisting of paclitaxel and docetaxel.

20. The method of claim 12, wherein the second agent is administered prior to administration of the first agent.

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21. The method of claim 12, wherein the cancer cells are human cancer cells.

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22. The method of claim 21, wherein the human cancer cells are selected from the group consisting of breast cancer cells, colon cancer cells, and ovarian cancer cells.

23. A method for treating cancer in an afflicted subject comprising

(a) administering to the cells a first agent comprising a synthetic, modified oligonucleotide complementary to, and capable of down-regulating the expression of, nucleic acid encoding protein kinase A subunit RI α , the modified oligonucleotide having from about 15 to about 30 nucleotides and being a hybrid, inverted hybrid, or inverted chimeric oligonucleotide,

the hybrid oligonucleotide comprising a region of at least two deoxyribonucleotides, flanked by 3' and 5' flanking ribonucleotide regions each having at least four ribonucleotides,

the inverted hybrid oligonucleotide comprising a region of at least four ribonucleotides flanked by 3' and 5' flanking deoxyribonucleotide regions of at least two deoxyribonucleotides,

and the inverted chimeric oligonucleotide comprising an oligonucleotide nonionic region of at least four nucleotides flanked by two oligonucleotide phosphorothioate regions; and

(b) administering to the cells a second agent comprising an antibody that binds to epidermal growth factor receptor (EGFR) or a cytotoxic agent selected from the group consisting of taxanes, platinum-derived agents, and topoisomeraseII-selective drugs,

wherein the administering steps may be performed simultaneously or sequentially in any order.

24. The method of claim 23, wherein the oligonucleotide is a hybrid oligonucleotide.

5 25. The method of claim 24, wherein the oligonucleotide has a nucleotide sequence consisting essentially of the nucleotide sequence set forth in SEQ ID NO:4.

10 26. The method of claim 23, wherein the second agent is an antibody that binds to EGFR.

27. The method of claim 26, wherein the antibody is a monoclonal antibody.

15 28. The method of claim 27, wherein the antibody is C225.

29. The method of claim 23, wherein the second agent is a taxane.

20 30. The method of claim 29, wherein the taxane is selected from the group consisting of paclitaxel and docetaxel.

25 31. The method of claim 23, wherein the second agent is administered prior to administration of the first agent.

30 32. The method of claim 23, wherein the cancer cells are human cancer cells.

33. The method of claim 32, wherein the human cancer cells are selected from the group

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consisting of breast cancer cells, colon cancer cells, and ovarian cancer cells.

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